REMARKS

The above-referenced patent application has been reviewed in light of the Office Action, dated August 26, 2003, in which the Examiner rejected claims 1 and 3-11. Reconsideration of the above-referenced patent application in view of the foregoing amendments and the following remarks is respectfully requested.

Claims 1 and 3-11are pending. Claims 6 been amended.

It is noted that claim 6 has been amended; however, this amendment is not in response to prior art or a rejection or objection from the Examiner. This amendment is merely to correct a minor and inadvertent typographical error. The change does not alter the literal scope of the claim. It is, therefore, asserted that no prosecution history estoppel results from this amendment.

The Examiner has rejected claims 1 and 6-8 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,844,949 (Hershey et al.) in view of U.S. Patent No. 4,799,238 (Braun et al.) This rejection by the Examiner of these claims is respectfully traversed.

As is well-established, to establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the cited patents themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the cited patent or patents or to combine their teachings. Second, there must be a reasonable expectation of success. Finally, the cited patent (or cited patents when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not be based on Applicants' disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

We begin with claim 1. Regarding this claim, the Examiner asserts that item 2 of Fig. 5a in Braun et al. teaches an exclusive "or" gate having a first input for receiving a digital baseband signal. However, on a closer reading of Braun et al., it is clear that item 2 of Fig. 5a is not an exclusive "or" gate, but is, instead, an adder. Braun et al., column 4, lines 37-46. Furthermore, the Examiner asserts that Braun et al. teaches "a one bit delay unit having an input coupled to the output of said

exclusive 'or' logic unit, said one bit delay unit having an output coupled to a second input of said exclusive 'or' logic unit." The Examiner does not, however, identify which part of Braun et al. allegedly teaches this. Braun et al. teaches that "the data coming from adder 2 are at the same time fed to a delay section 4, for example a shift register and are from there applied to a second input of the adder 2 and are added modulus 2 to the data present at the first input [of adder 2]." Braun et al., column 4, lines 41-44. Braun et al., therefore, does not appear to teach "a one bit delay unit having an input coupled to the output of said exclusive 'or' logic unit, said one bit delay unit having an output coupled to a second input of said exclusive 'or' logic unit," contrary to the Examiner's assertion. If anything, Braun at al. teaches away from the claimed invention by using an adder instead of an exclusive "or" logic unit. Thus, not only is the asserted combination missing an element. In addition, it would be improper to combine the cited patents in an attempt to produce the claimed invention because one of the patents teaches away from what is claimed.

As shown above, Braun et al. teaches neither "an exclusive 'or' logic unit having a first input for receiving said digital baseband signal;" nor "a one bit delay unit having an input coupled to the output of said exclusive 'or' logic unit, said one bit delay unit having an output coupled to a second input of said exclusive 'or' logic unit" as recited by Applicants' claim 1. The Examiner has failed to make a prima facie case of obviousness with respect to claim 1. It is, therefore, respectfully requested that this rejection of claim 1 on this ground be withdrawn.

Furthermore, the Examiner contends that Hershey et al. teaches a system wherein the "system (including encoder and decoder), at least, facilitates identification of transmission errors resulting from a time varying function due to transmission through distribution transformer (column 1, lines 22-41)." August 26, 2003 Office Action, page 3. However, it does not appear that the Examiner is correct with respect to his citation of Hershey et al. regarding "identification of transmission errors". Applicants' claim 1 reads in pertinent part as follows "wherein the encoder, at least, facilitates identification of transmission errors resulting from a time varying function due to transmission through distribution transformers." The Examiner has not identified teaching in either Hershey et al. or Braun et al.,

individually or in combination, that discusses this aspect of Applicants' claimed invention. Again, therefore, the Examiner has failed to establish a prima facie case of obviousness with respect to claim 1. Applicant respectfully requests that the rejection of claim 1 also on these grounds be withdrawn.

With regard to claim 6, the Examiner did not address the elements of claim 6 specifically, instead, relying on various positions discussed above. However, as explained above regarding claim 1 and in more detail below regarding claim 6, the Examiner is mistaken as to the subject matter of the cited patents, whether viewed individually or in combination. As just one example, the discussion above regarding identification of transmission errors also applies to claim 6. The Examiner, thus, has failed to establish a prima facie case of obviousness with respect to claim 6 in that the asserted combination, even assuming it were proper, is missing elements of the claimed invention.

Neither Hershey et al. nor Braun et al., alone or in combination, expressly teach "providing said digital baseband signal to a first input of an exclusive 'or' unit; performing an exclusive 'or' operation on said first input and a second input of said exclusive 'or' unit; delaying the output of said exclusive 'or' unit and providing the delayed output to said second input of said exclusive 'or' unit" as recited by Applicants' claim 6. The Examiner admits that Hershey et al. does not teach an encoder or decoder in detail, and as discussed above with regard to claim 1, Braun et al. does not disclose a decoder including an exclusive "or" unit. If anything, as indicated above, Braun at al. teaches away from the claimed invention by using an adder. Therefore, Hershey et al. and Braun et al., whether viewed individually or in combination, fail to teach each and every element of Applicants' claim 6. Thus, for these reasons, it is respectfully requested that the Examiner withdraw his rejection of claim 6.

Furthermore, as discussed with regard to claim 1, Hershey et al. does not disclose a system "wherein the system (including encoder and decoder), at least, facilitates identification of transmission errors resulting from a time varying function due to transmission through a distribution transformer" as asserted by the Examiner. August 26, 2003 Office Action, page 3. Therefore, the asserted combination fails to teach a method of encoding "wherein the method for encoding, at least, facilitates identification of transmission errors resulting from a time varying function due to transmission through

distribution transformers" as recited by Applicants' claim 6. Hershey et al. and Braun et al., individually or in combination, fail to teach each and every element of Applicants' claim 6. Thus, for these reasons as well, it is respectfully requested that the Examiner withdraw his rejection of claim 6.

Furthermore, the combination of Hershey et al. in view of Braun et al. is an improper combination. Obviousness is not established by merely combining cited patents having different individual elements of a pending claim. Ex parte Levengood, 28 U.S.P.Q.2d 1300 (Bd. Pat. App. & Inter. 1993). There must be some suggestion in the prior art to combine the cited patents. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). It is impermissible to use the claimed invention as a guide or template to piece together the teachings of the cited art so as to attempt to render the Applicants' claimed invention obvious. When the motivation to combine the teachings of the cited patents is not immediately apparent, it is the duty of the Examiner to explain why the combination of the teachings is proper. Ex parte Skinner, 2 USPQ2d 1788 (Bd. Pat. App. & Inter. 1986). Here, the Examiner has not identified any suggestion in the cited patents that the teachings of Braun et al. could be used to modify the teachings of Hershey et al. Furthermore, the Examiner has not explained why the combination would be proper. Rather, as discussed above with respect to claim 1, Braun et al. teaches away from the claimed invention. Thus, it would not be proper under such circumstances to attempt to combine the patents to produce the claimed invention. It is therefore respectfully requested the rejection of claim 6 on this ground be withdrawn as well.

In addition, rejected claims 7 and 8, depend from independent claim 6, and thus, all patentably distinguish from the cited patents on at least on the same basis as claim 6. Thus, it is also requested that the Examiner withdraw the rejection of these claims on these grounds as well.

Furthermore, with regard to Applicants' claim 8, the Examiner asserts that Braun et al. teaches "wherein the output of said or unit is delayed for one bit period (column 1, lines 65-68)." However, column 1, lines 65-68, of Braun et al. reads as follows " the symbol duration is selected in such a manner that the period of the fundamental frequency is N-times the symbol duration (N = 1, 2, 3 ...), and ". Therefore, the portion of Braun cited by the Examiner does not teach a method "wherein the

output of said exclusive 'or' unit is delayed for one bit period" as recited by Applicants' claim 8. If anything, then, it teaches away from the recited claim. The Examiner, therefore, has not established a prima facie case the Applicants' claim 8 is obvious in light of the cited patents. It is, therefore, respectfully requested that this rejection of claim 8 be withdrawn on this ground as well.

Claims 3-5 and 9-11 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Hershey et al. in view of U.S. Patent No. 5,822,363 Leroy et al. The rejection by the Examiner of these claims on these grounds is respectfully traversed.

With regard to claim 3, the Examiner contends that Hershey et al. teaches a system wherein the "system (including encoder and decoder), at least, facilitates identification of transmission errors resulting from a time varying function due to transmission through distribution transformer." August 26, 2003 Office Action, page 5. However, as discussed previously, it does not appear that the Examiner is correct with respect to his citation of Hershey et al. regarding "identification of transmission errors". Applicants' claim 3 reads, in pertinent part, as follows "wherein the decoder, at least, facilitates identification of transmission errors resulting from a time varying function due to transmission through distribution transformers." Even assuming the combination were proper, then, Hershey et al. in view of Le Roy does not teach or suggest this aspect of Applicants' claim 3. In light of the foregoing, the asserted combination fails to teach each and every element of Applicants' claim 3. The Examiner has failed to establish a prima facie case of obviousness. It is therefore requested that the Examiner withdraw his rejection of claim 3.

In addition, the Examiner contends that Le Roy teaches the elements of Applicants' claim 3 that are absent from Hershey et al. Le Roy, however, discloses a band pass filter coupled to a delay unit. The output of the delay unit and the output of the band pass filter are then feed into a multiplier. Le Roy, Fig. 2, and column 3, lines 7-12. The Examiner contends that Le Roy teaches "a multiplier 24 having a first input coupled to the output of the filter, and a second input coupled to the output of said delay unit; a summer (26) coupled to the output of said multiplier (24)." August 25, 2003 Office Action, page 5 (numeral referring to drawing figures of Le Roy). The Examiner is mistaken as to the

teachings of Le Roy. Specifically, numeral 26 in the Le Roy specification is not a summer, as recited by Applicants' claim 3. Le Roy teaches a "reciever [that] has an input Er and comprises a band pass filter 20, a delay circuit 22 for a duration of Tb, a multiplier 24, an integrator 26 operating on a period Tb and a logic decision circuit 28." Le Roy, column 3, lines 8-12. In the system of Le Roy integrator 26 integrates the supplied signal over a period of Tb, it does not sum the signals as recited by Applicants' claim 3. The Examiner has not established a prima facie case. The cited patents do not teach each element of Applicants' claim 3. It is, therefore, respectfully requested that this rejection of claim 3 on this ground be withdrawn.

Furthermore, Applicants contend that Hershey et al. in view of Le Roy is not a proper combination. There is no motivation in either Hershey et al. or Le Roy that the teachings of the two could be combined, or that if the teachings were combined that there would be a likelihood of success. Specifically, there is no suggestion or teaching in either Le Roy or Hershey et al. how the two may be combined so as to "facilitate identification of transmission errors resulting from a time varying function due to transmission through distribution transformers." Le Roy is concerned with spectrum spread phase differential modulation and demodulation using orthogonal pseudorandom sequences, particularly in radio communications with satellites and radiolocation, such as GPS. Le Roy, column 1, line 8-15. Thus, there is no motivation in Le Roy or Hershey et al. for the radio communications decoder of Le Roy to be used (or that it is able to be used) in a GHM communication system such as that disclosed in Hershey et al. The Examiner asserts that the motivation to combine the two is provided by Hershey et al. However, the portion of Hershey cited by the Examiner refers to the well-known coding approach, differential phase shift keying (DPSK), not the radio communications decoder approach of Le Roy. It is, therefore, respectfully requested that this rejection of claim 3 be withdrawn for this reason as well.

With regard to claim 4, the Examiner contends that Le Roy teaches, among other things, a "summer coupled to the output of said multiplier" as recited by Applicants' claim 4. As discussed above with regard to claim 3, Le Roy does not teach a "summer coupled to the output of said

multiplier." In addition, as discussed above with regard to claim 3, the asserted combination fails to teach a system "wherein the encoder and the decoder, at least, facilitate identification of transmission errors resulting from a time varying function due to transmission through distribution transformers" as recited by Applicants' claim 4. Therefore, Examiner has not established a prima facie case that Applicants' claim 4 is obvious in light of the cited patents. Furthermore, as discussed above, Applicants' contend that the combination of Hershey et al. in view of Le Roy is an improper combination because there is no motivation to combine their teachings. It is, therefore, respectfully requested that this rejection of claim 4 on this ground be withdrawn.

In addition, claim 5 depends from independent claim 4, and, thus, is patentably distinguished from the cited patents on at least on the same basis as claim 4. Thus, it is also requested that the Examiner withdraw the rejection of claim 5 on this ground as well.

Furthermore, claim 9 depends from claim 7, and, thus, is patentably distinguished from Hershey et al. and Braun et al. on at least the same basis as claim 7. Claim 7 was discussed previously in connection with independent claim 6. Claim 9 further is patentably distinguished from Hershey et al. in view of Le Roy at least because the asserted combination does not teach or suggest a method "wherein the method for encoding, at least, facilitates identification of transmission errors resulting from a time varying function due to transmission through distribution transformers" as recited by Applicants' claim 9. It is therefore respectfully requested the rejection of claim 9 on these grounds be withdrawn.

The Examiner combined the analysis of claims 3 and 10. However, it is noted that claim 10 is directed to a method of decoding, whereas claim 3 is directed to a decoder. Claim 10 is as follows:

A method of decoding digital baseband signal encoded by the method of claim 6, when the encoded digital baseband signal modulates a geometric harmonic modulation carrier signal, the method comprising the steps of:

decomposing said geometric harmonic modulation signal into geometric harmonic modulation tones;

providing said geometric harmonic modulation tones to a first input of a multiplier;

delaying said geometric harmonic modulation tones and providing the delayed tones to a second input of said multiplier;

multiplying said first input by said second input to provide a product;

summing said product;

determining the logic level of said product, the determined logic level being the decoded baseband signal.

The arguments made above regarding claim 3 apply here as well. For example, similar to claim 3, the recited combination does not teach "summing said product" as recited by Applicants' claim 10. The Examiner admits that Hershey et al. does not provide details as to the decoder in its system and Le Roy, as discussed above with regard to claim 3, teaches a system which integrates the product of the multiplier using an integrator. Le Roy, column 3, lines 8-12. Likewise, the patents, whether viewed individually or in combination do not disclose "facilitat[ing] identification of transmission errors resulting from a time varying function due to transmission through distribution transformers." Likewise, as indicated above, there is no motivation for the proposed combination. The Examiner has therefore failed to establish a prima facie case for obviousness because the combination fails to teach or suggest each element of Applicants' claim 10. It is, therefore, respectfully requested that this rejection of claim 10 on this ground be withdrawn.

In addition, claim 11 depends from independent claim 10, and thus, is patentably distinguished from the asserted combination on at least on the same basis as claim 10. Thus, it is also requested that the Examiner withdraw the rejection of these claims on this ground as well.

CONCLUSION

In view of the foregoing, it is respectfully asserted that all of the claims pending in this patent application, as amended, are in condition for allowance. If the Examiner has any questions, he is

invited to contact the undersigned at (503) 629-7477. Reconsideration of this patent application and early allowance of all the claims is respectfully requested.

Respectfully submitted,

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